MAINSTREAMING VISUALLY IMPAIRED
STUDENTS:
PRACTICAL CONSIDERATIONS

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PURPOSE

"Mainstreaming Visually Impaired Students: A Practical Approach" was written to provide basic information regarding research, best educational practices and new ideas about mainstreaming to public school practitioners, namely, teachers and administrators dealing with visually impaired students. While the main text of this paper provides some helpful information, the forms in the Appendix were developed to provide the bulk of what practitioners need to know in an easy-to-use format. Each form can be used individually by a teacher for her/his given purpose, although the entire section may be useful to a new teacher.

Through researching this paper, I learned a lot about the history of mainstreaming the visually impaired. But I also learned that little information is available; well developed research about best educational practices is conspicuous by its absence. Given the usual difficulties associated with researching the visually impaired population (low incidence, scattered residency, etc.), compounded by the large number of factors affecting the outcome of such research, I now understand that suggested, rather than documented, practices constitute the bulk of the information I have seen.

The contents of this paper may also be considered as suggestions, with the hope that they will prove useful to me and to others as we pursue our goal of integrating visually impaired students into the educational mainstream.

The formal educational segregation of blind and visually impaired students can be traced back to 1784, when Valentin Haüy established the first school for the blind in Paris, France (Caton, 1981). Within a few years, the educational controversy over the segregation versus integration of the blind began that has continued even to this day.

An Austrian, Johann Wilhelm Klein, (Kenmore, Note 6) founded the Viennese school for the blind in 1804. However, by 1810, he was reserving places for blind students in local schools for the sighted. "The need is obvious that education of blind children according to their needs be provided in their parental home and in the school of their community," he later stated (cited in Lowenfeld, 1973, p.14).

The first residential schools for the blind in the United States cropped up in the 1830's in New York, Boston and Philadelphia (Scholl, 1968), bringing the segregation-integration issue to American shores.

The controversy extended even to the communication systems used by the blind. Integrationists, under the influence of Haüy, believed that an arbitrary system of reading and writing would further exclude or segregate the blind. Nevertheless, the real thrust towards the use of Braille as the major system began in 1868 (Godfrey, 1977), probably to the integationists' chagrin.

An 1891 Scottish publication glowingly titled Light on Dark Paths: A Handbook for Members of School Boards, Teachers, Parents of Blind Children, and All Who Seek in Any Way to Be "Eyes to the Blind" stated that, "Further, it became certain that the blind were trained too much for the Institution and not enough for life in the world" (cited in Davidson, 1981, p.81). To that end, the first identifiable public school class for the blind was established in 1900 (Head, 1979) in Chicago (Caton, 1981). Between 1900 and 1910, cooperative and resource programs were established in Boston, Cincinnati, Milwaukee, Racine, Cleveland, New York and Newark (Mangold, 1978b).

The London, England City Council of 1911 received sanction from the Board of Education to establish special classes for 100 partially sighted students. These classes were to be held in or in close proximity to elementary school premises. The Council blieved that it was essential for the partially sighted students to take their oral work with fully sighted children. Literary work in the 3-R's and manual work were to be taken at the school for the blind. "If a child becomes fit (by improved vision, arrested progress of myopia, etc.) for education in the Public Elementary School, he should not continue to be subjected to the inevitable limitations of the special school". (Board of Education, 1934, p.32)

Meanwhile, back in the United States, integrated education was progressing. The first class for partially seeing students was begun in Boston (National Society for the Prevention of Blindness, 1952) in 1913 (Caton, 1981). The first Sight Saving Class opened in Philadelphia in 1919 (Hartman, 1957). In 1923, the California School for the Blind formally reorganized its high school program to include sending students to public high schools, an informal practice it had begun in the 1890's (Lowenfeld, 1956).

Florence Henderson began California's first resource program in the 1940's (Mangold, 1978b), thus extending integrated services from coast to coast. Until the 1940's, integration of the blind in America was limited to only a few sites. During the 1940's, only 8% of all blind school-age children were enrolled in public school programs (Strutinsky, 1981a). The middle-class parents of the wave of children with Retrolentil Fibroplasia in the late 1940's and early 1950's soon changed this statistic. They pushed and persevered for public school education, assisted by interest stimulated by the American Foundation for the Blind. Such parents believed that "their children's quality of life overpowered academic achievement alone and that they 'belonged' in their own communities with their families". (Stratinsky, 1981a, p.47) Thirty years later, in 1978, more than 75% (Scholl, 1978) of blind children were enrolled in public schools.

A new type of program began to develop: by March, 1955, public school districts in three to four states had itinerant teachers who served partially sighted students attending regular classes (New York State Education Department, 1955). With the opening of the 1954-55 school year, the Montgomery County, Maryland school district began consultant services to students via itinerant teachers. Until 1969 that district used only the itinerant plan (O'Brien, 1973).

In 1956, Illinois districts had 85 classes for partially sighted students. "Special education should help the children to be normal, not different. Let us emphasize the child, not his difference." (Graham, 1956, p.2) With this philosophy, integration of the partially sighted was an important phase of upgrading the program in Illinois (Graham, 1956). As Susan Spungin reported in 1978, "The very early history of integration in the field of special education for the visually handicapped had to overemphasize the blind child's similarities to other children in order for public school personnel to accept the visually handicapped children into their school system." (Cited in Stratinsky, 1981a, p.50)

By 1960, two major public school programs had emerged:

1) the cooperative plan - students were enrolled in and did "close work" in their special class and were mainstreamed into Art, Music, Gym, Social Studies and Science classes, and
2) the resource room - students were enrolled in regular classes and attended the resource room for "close work" (Cohoe, 1960).

The itinerant plan was an offshoot of the resource room plan, but still not widely used.

The slow but certain increase in the number of public school programs was attributed by Berthold Lowenfeld to:

1) the increased integration of the blind into society as a whole,
2) Americans' high regard for public school education, and
3) the recognition of the importance of family life for the individual child (Mangold, 1978b).

A 1966 study done by Jones and Collins showed that sixteen residential schools for the blind regularly sent some students to classes in neighboring local schools. This was typically arranged for all or some high school level students although two of the schools sent selected students in grades 1 through 12 (Taylor, J., 1973).

The Nebraska Legislative Bill 241 of 1969 established the Nebraska School for the Visually Handicapped as a state resource center, providing assistance to all educational programs in this sparsely populated state. Such assistance to the local public schools included inservice training of teachers, itinerant teaching, counseling services, equipment loan, books and learning media (Taylor, J., 1973).

The Southeastern and South Central states have lagged somewhat behind in integration efforts, as evidenced by these statistics:

Percentages of Students by Programs

Program:	Southeastern/South Central Residential	Day	Nationally Residential	Day
1972	47%	53%	35%	65%
1975	41%	59%	65%	69%

(Coker, Note 3, p.52)

Any history of integrated education since 1975 would have to focus upon Public Law 94-142, the Education of the Handicapped Act of 1975. This law mandates that students be educated according to their needs with as many successful general education experiences as they can handle. This law has had the effect of fanning the brushfire of integration vs. segregation into a forest fire of incomparable magnitude. Integrationists, usually public school staffs, quote "the law" in its strictest sense, while typical segregationists, often residential school employees or graduates, emphasize specific needs of the visually impaired student which remain unmet in day programs. Each group uses data gathered by others of that group to support their claim that "ours is best". In truth, both sides probably have some merit to their claims and both sides can support their claims with available data.

The Equal Rights movement has, undoubtedly, also been one of the forces behind the current interest in integrating visually impaired students into the mainstream of education (Scholl, G., 1978). In addition, the comparative costs and speed of serving large numbers of students scattered across each state has focused attention upon mainstreaming and has increased the pressure on both day school and residential programs to provide opportunities for mainstreaming. It is frequently easier to develop new standards, such as those comprising integrated services, rather than to try to change the older standards often found in the special (residential) schools (Kenmore, Note 6).

Assuming that successful living in a sighted world is the goal of education for students with visual limitations (and that may be a false assumption, according to some critics), mainstreaming would appear to be the means to that end. "Obtaining the ability to cope with the stresses and tensions resulting from the singular emotional environment in which blind people must live in a sighted world is the chief goal in the education of blind children," according to William Taylor (1956, p.19). Public school education gives the child the chance to:

> 1) inure (her)himself to the aversions
> and irrational reactions of sighted
> people to which (s)he must ultimately
> accommodate (her)himself,
> 2) select as friends those worthwhile people
> with sufficient stability and maturity
> to enable them to accept him(her), notwithstanding his blindness and
> 3) select vocations and avocations which
> are feasible to the blind. (Taylor, W.,
> 1956, p. 19)

It has been said that fuller personal gratification comes to the person, blind or otherwise, who is maximally involved in the world about him(her). Adaptational skills should be the tools to attain this goal of maximal involvement and of getting along in the world. (Thurrell, 1966) Such skills should be the result of the educational process.

If, in fact, "integration can be considered as being synonomous with acceptance", (Strutinsky, 1981a, p. 37) then rare would be the visually impaired individual who could make the transition from segregated schooling to integrated adult living without previous integrated experience. Instead, such a process should begin at birth with his(her) parents, supported by family and professionals. (Strutinsky, 1981b)

Public school programs keep the student within the home and community environment where adaptive behavior and appropriate reality testing can be learned first hand. This is a more realistic setting, since it is the one in which children must eventually live and work, long after school has been completed (Maron, 1978). It is also the setting that gives the student a wider variety of experiences (Mangold, 1978b).

Residential programs, on the other hand, can inhibit or delay successful integration into the student's home community. The student has to continually readjust to life at home during holidays. (S)He may not have cultivated friends at home and siblings, unused to the rivalry of another child at home, may not be willing to develop close relationships. As a result, the student may not be able to enjoy his(her) time at home since there is little at home to entertain him or her, whereas at school, recreation and/or leisure programs are held right on campus. The family may not see changes or growth in the student and may have difficulty in reacting appropriately to him or her, creating another difficulty for the student trying to "fit in". (Ricketts, 1974)

Sterns and Swenson stated that "the major disadvantage of many residential programs is that they often become no more than part-time segregated classes, duplicating the curriculum of the regular classrooms". (Mangold, 1978b, p. 53) A similar situation is described by Hapeman, who stated that public school teachers are inappropriately serving visually impaired students by tutoring them in math, reading, etc. (cited in Jones, D., 1978, p.34)--in short, duplicating the regular curriculum in a segregated (part-day) situation. As Jones points out, "Where to these differ? In a nutshell, they don't. The student's individualized program must meet his(her) needs". (Jones, D., 1978, p. 34)

Wolfensberger states that a separate service delivery can be justified ONLY when the typical service delivery cannot currently be adapted to meet an individual child's needs. The more fully the handicapped child's needs are met through the typical service delivery, the closer that professionals have come to the best educational practices (Vincent, Brown and Getz-Sheftel, 1981).

Vincent, Brown and Getz-Sheftel feel that exceptional education literature supports the statement that "handicapped children are more alike than different to their nonhandicapped peers" (Vincent, et.al., 1981, p. 20). Provision of services in the mainstream of society emphasizes similarities rather than differences (Vincent, et.al., 1981).

The data also support integration due to lack of detriment for either handicapped or typical child. By structuring interactions where the handicapped child acquires new behavior by observing and modifying the more competent behavior of other children, successful integration is possible (Vincent, et.al., 1981). Strickhart (1974) believes that any child, when given the chance, will model the behavior of his(her) more competent peers (cited in Vincent, et.al., 1981). Apolloni & Cooke (1978) found that typical children did not imitate the less competent behavior of their handicapped peers (cited in Vincent, et.al., 1981). Both handicapped and nonhandicapped public school students were found to be more likely to imitate their nonhandicapped peers than their handicapped peers (Peterson, Scriven and Scriven, 1977).

Certainly, proponents can be found to support either integrationist or segregationist philosophies. In my opinion, the situation is not as dire as Hapeman proclaimed, "Public Law 94-142 has the potential of erasing 75 years of gains" (Hapeman, 1977, p. 36) in education of the visually impaired. It would appear that mainstreaming of visually impaired students with their sighted peers can be very appropriate and beneficial to all students, whether considering the "law" or the "needs" of each individual.

As has previously been stated, data have been taken pro and con the effects of the mainstreaming experience upon students. However, due to sample sizes, differences between individuals, and many other very subjective factors, few conclusive elements emerge. In addition, almost no evaluation of programs has been attempted, resulting in little accountability for efforts directed toward (or against) mainstreaming (Mangold, 1978a).

A compilation of data suggests the following factors that might influence mainstreaming. (Again, much of this information may be based upon inconclusive information gathered by highly subjective means.) Such factors include:

1. SOCIAL COMPETENCE

   Visually impaired college students, some of whom had attended the last three years of high school in a residential program, while the rest attended public school programs, were found to have no significant differences between the quality of their academic preparation for college work. Factors NOT considered were social competence and social acceptance (Winkley, 1972).

2. SOCIAL ACCEPTANCE

   See #1.

3. SOCIAL ADJUSTMENT

   A. One major aspect of social adjustment is relationships which lead to dating and marriage. This study found inconclusively that blind people begin to date earlier and are more hostile and less masculine than sighted subjects. It also found that visually impaired students attending both residential and public school programs showed the best social adjustment, residential students showed the next best, and public school students showed the worst social adjustment, again with inconclusive testing/data (Crandell & Streeter, 1977).

B. Significantly more social gains were shown by sighted preschool students who spent one hour/week with visually impaired students. Their attitudes became more favorable toward their handicapped peers (Esposito & Peach, 1983).

C. School placements, self concepts and academic achievements were examined via testing. No significant differences were noted in schievement tests scores or self concept measures between visually impaired residential and public school students. It seemed that day students did not feel different from other public school students whereas residential students did (Coker, 1979).

D. A questionnaire completed by partially sighted and sighted students indicated no overall differences in social interactions although differences may exist between single items measured (Krieger, Note 6).

4. SELF CONCEPT

No statistical significance resulted in self concept scales administered to visually impaired residential and day school students. However, it did appear that those students receiving Itinerant services may NOT be receiving support in the formation of positive self concepts that was equal to their peers in resource or residential placements (Head, 1979).

5. INTROVERTED PERSONALITY

A. Parents completing questionnaires felt their partially sighted children were more introverted than did parents of sighted children (Weber, Note 10).

B. Residential school students appeared to be more introverted than sighted students; few differences existed between sighted and partially sighted mainstreamed students (Zumloh, Note 11).

6. REASONING SKILLS

Blind subjects appeared to have an eight-year average delay in reasoning processes compared to sighted subjects. They appeared to function at the concrete operational level of thought--a lower level of reasoning than might be expected for sighted peers of comparable age and intelligence (Stephens & Simpkins, 1974).

7. ORGANIZATIONAL SKILLS

A. Visually impaired students matched to a control group by several factors were considered to be less efficient organizers than sighted pupils (Krug & Krug, Note 8).

B. Partially sighted students were considered by their parents to hesitate more than sighted students before beginning projects (Weber, Note 10).

8. VOLUNTEERING

Residential pupils appeared to volunteer more than day school students (Coker, 1979).

9. AVOIDANCE OF SITUATIONS

In a project to determine the consequences of children's subnormal vision, it was felt that perhaps partially sighted students tended to avoid frustrating situations (Ehli, Note 4).

10. FRIENDS

A. This study compared visually impaired students served by itinerant teachers, resource rooms and residential schools. Loosely interpreted, it indicated that with more exposure to sighted students, the visually impaired student had more sighted friends and more activities involving sighted friends. Also, there appeared to be no difference among students, regardless of placement, in regard to the effectiveness of Braille teaching they had had (McGuinness, 1969).

B. Parents felt their partially sighted children were less cautious in choosing friends than did parents of sighted children (Weber, Note 10).

11. CARRIAGE

Partially sighted pupils were considered to have deficient carriage more often than sighted peers (Krug, et.al., Note 8).

12. MOBILITY

Blind day school students were rated by their teachers as being more mobile than those who attended residential schools. The data were inconclusive (Blackhurst and Marks, 1977).

13. UNACCEPTABLE PHYSICAL/SOCIAL BEHAVIOR

While little is known about the acceptance of blind children in sighted classrooms, unacceptable physical and/or social behavior must be modified (Jones, Lavine and Shell, 1972).

(See Appendix: Form 1 for a compilation of the above information).

In addition to research factors that might influence mainstreaming, there are other considerations that may need to be addressed when a potential mainstream situation is to be explored. Other considerations might include:

1. Difficulties that students may face (Smith, 1973; Strutinsky, 1981b, Thurrell, 1966). See Appendix: Form 2.
2. Predictors of integration (Thomas, 1979). See Appendix: Form 3.
3. Critical elements of success (Allen, 1981; Kenmore, Note 6; Martin & Hoben, 1977). See Appendix: Form 4.
4. Conditions of socialization (Buell, 1953). See Appendix: Form 5.

In the preparations for mainstreaming, it is particularly important for the teachers, both general and special education, and the students to examine, delineate and then address the concerns that each has. A starting place might be for the teacher of the visually impaired to take stock of the students' skill levels. In A Blind Child, Too, Can Go To Nursery School, Pauline Moor wrote for A.F.B. in 1952, that for successful integration to take place, the student should at least be able to:

1. move about easily, with a fair sense of direction.
2. orient him/herself to new people and places without too much difficulty.
3. leave home without becoming unduly upset.
4. make toilet needs known.
5. take new experiences in stride or at least show some flexibility and adaptation.
6. express him/herself reasonably clearly.
7. feel comfortable about going to school (cited in Orlansky, 1977, pp. 14, 15)

While some of the above are now outdated, such as #4, and some might be most appropriate for the very young children about whom Ms. Moor wrote (#3 for example) most would still be helpful to the teacher preparing a student for mainstreaming.

It might also be appropriate to learn what concerns the student has regarding mainstreaming. What things does (s)he want the teachers to know? Information gathered by Martin and Hoben (1977) indicated that students want their teachers to know: (See Appendix: Form 6)

1. what "legally blind" really means--that it is a designation,not a limit on what the student can do,
2. information about handicapped people and their feelings,
3. that special treatment and/or pampering may cause resentment from other students and is not wanted by the low vision student,
4. that helpful suggestions should not make the recipient feel foolish or like an "idiot",
5. that blindness does not also mean other handicaps are present,
6. that competition can be fun and challenging for all students and
7. that undeserved grades are not wanted by the visually impaired student.

It may also be useful to elicit similar information from the students' parents (See Appendix: Form 7).

It is the teacher of the visually impaired who generally bears the brunt of setting up the mainstreamed experience. It is (s)he who typically does the legwork to see how (or if) a specific pupil can fit into the general education classroom. Specific tasks might include those listed in Appendix: Forms 8 and 9.

The general education teacher shares in the primary stages of setting up the mainstream experience, although it is (s)he who bears the brunt of the later actual work with the student. Suggestions tailored to preparing the general education class (room) for a mainstreamed visually impaired student are listed in Appendix: Form 10.

Appendix: Form 11 is a communication sheet that the general program teacher can use to apprise the special teacher of the student's progress and needs.

If, after beginning preparations for mainstreaming, it is determined that a student is not yet ready to be integrated into a regular classroom, there are options that may ultimately lead to successful integration. The admission and release committee can determine in what area(s) the student is weak and focus instruction on improving those areas. Specific work with the teacher of the visually impaired may increase the student's skills. If a behavior change is warranted, the teacher may model the appropriate behavior.

Another technique used when a student is not yet ready to mainstream is called reverse mainstreaming. This technique requires bringing sighted students, matched by learning styles and achievement levels in subject areas, if appropriate, into the resource room (or even into the room where the itinerant teacher works). Students, both sighted and low vision, can work in small groups or one-on-one with each other to the advantage of both groups.

The sighted students are receiving more individualized instruction and can probably benefit from the hands-on techniques and the use of special materials and techniques, such as behavior modification, used by the teacher of the visually impaired. These sighted peers bring to the visually impaired students a boost to the self-esteem, different concepts of the world and knowledge unfamiliar to the special student. The sighted students learn that low vision students are capable of many things and become public relations messengers for the vision program. Meanwhile, the visually impaired students become less dependent on the special teacher (Hubbard, 1983).

It is possible to use this same technique with students served by an itinerant teacher. In this situation, it may be preferable to bring a "model student" or "peer model" (Giordano, 1983) into the room to work with the teacher and the visually impaired student. Once again, there are advantages for both students. The visually impaired student is gaining new skills and the general program student is breaking down stereotypic barriers.

If an approach such a reverse mainstreaming is used, it is important to inform and enlist the support of all parents, teacher and administrators involved so that all can share needs or progress (Hubbard, 1983).

As mentioned earlier, the attitudes of parents, receiving teachers and studeots, support and other staff members, and building administrators may need some fine tuning regarding mainstreaming visually impaired students. Misconceptions play a role in most attitudes toward "the blind". Pity and sympathy may be the initial reactions and are usually out of proportion to the actual limitations imposed by blindness (Monbeck, 1973). As Lukoff and Whiteman reported, "Sighted people are generally surprised if a blind person can do something" (cited in Monbeck, 1973, p. 8). This prediction of failure can be devastating in the mainstreaming environment.

It is well advised to take some time to attempt to change the (mis)perceptions that the school's population has regarding visually impaired persons. A simple yes-no questionnaire, such as the examples in Appendix: Form 12, can be used to determine what "myths" are believed and to get the direction of future "debriefings" for the school's population.

Blind people are generally perceived as being helpless, dependent and of low social status. Altruism studies show that those people perceived as being dependent are more likely to be helped (Baker, 1973). Unfortunately, when applied to the mainstreaming model, these misperceptions can play havoc with the student's success, status and independence. "It is only adults who make acceptance of blind children so difficult as they do not realize what the children can do, nor how", as Roselynn Krebs stated in 1961 (p. 10) and this statement remains as true today as then.

Misperceptions underlie attitudes that teachers, students and others in the school setting use to deal with the visually impaired student(s) in the building. Martha Sullivan quotes Winfred Hathaway, who stated in 1959, "The adjustment of the child who is partially seeing is affected to a greater extent by the attitudes of those around him than by the visual impairment" (cited in Sullivan, 1974, p. 11).

There is no question that attitudes affect the acceptance of low vision students. It is acceptance by the peer group, that sense of belonging regardless of handicap, that gives the child her(his) realistic perspective and the capacity to adequately cope with rejection (Wolman, 1958). Wolman also felt that there seemed to be a direct correlation between the teacher's positive feelings and the degree of acceptance by other students. Jones, Gottfried and Owens, in a 1966 study, reported that blind students were among the least well accepted (cited by Nolan and Ashcroft, 1969, p. 55). So it appears that acceptance and positive attitudes may need to be instilled in the mainstream environment.

Even the attitude of blind people may be affected, though perhaps in a different way, by their (mis)perceptions and acceptance in terms of other blind people. A blind person's success is typically attributed to her (his) ability by her (his) peers and her (his) failure by the difficulty of the task! Blind people know that they are being judged by the sighted by different standards than would be sighted people, even if the tasks are comparable. The inference, of course, is that there can be a great difference between self image and anticipated self image (Kempf & Lacher, Note 5). The visually impaired student may also need to be involved in some of the acceptance and attitude shaping activities.

Research of varying designs and definitiveness has been done relative to attitudes toward handicapped individuals. A summary follows (See also Appendix: Form 13) and as stated earlier, should not be considered as fact, but as merely ideas to be explored:

1. PERCEPTIONS:
    - A. Classroom teachers did not perceive any significantly different behavior patterns in peer interactions between partially sighted students and their peers (Rockwell, 1971).
    - B. It appears that the attitude of teachers toward handicapped students becomes less positive as grade levels increase, although they seem to be generally accepting of special education students if support or other personnel was provided to help meet the students' needs (Larrivee and Cook, 1979).
    - C. In a "provocative, not definitive study" there appeared to be a "greater tendency to believe that one's performance was impaired when interacting with a blind child than a sighted one, although objective evidence is to the contrary" (Jones, R., 1970, p. 324).
    - D. "Liberal" students (in graduate education and theology programs) expressed more favorable attitudes toward blindness than did "conservative" students (Kang, 1976).

E. Female graduate education or theology students expressed more negative attitudes toward the blind than did male students (Kang & Masoodi, 1977).

2. TEACHER NEEDS:

A. While junior high school teachers were interested in acquiring specific skills, high school teachers were more interested in exploring the affective dimension of dealing with special education students (Larrivee & Cook, 1979).

B. General education teachers wanted information about the specific handicapping condition of the blind student. They also wanted to know to use (and to be provided with) special materials to meet the needs of the blind students (Keilbaugh, 1977).

C. A survey of general education teachers indicated that they felt more prepared to meet special needs due to academic preparation instead of inservice programming. It was also felt that if inservice were to be provided, that it would be more effective if it were designed along the lines of traditional coursework (Ringlaben & Price, 1981).

3. CONTACT WITH BLIND:

A. Initial contact with the blind person was seen as crucial to attitude formation. Persons who have previously come into contact with blind persons tend not to display shifts in attitude as a function of the contact unless the contact was unusual (Cole, 1971).

B. General education teachers who had had previous contact with (or some exposure to) special education students had slightly more positive attitudes toward the handicapped in general (Keilbaugh, 1977).

C. No conclusive evidence exists that increased social exposure to blind children produces a positive increase in judgments concerning their abilities (Eaglestein, 1976).

D. However, sighted persons' perceptions of the visually handicapped student's abilities appear to improve with prolonged contact (Wilson, McVeigh, McMahon, Bauer, & Richardson, 1976).

E. Having a blind child in a regular class at least one hour a day made no difference in the development of the teacher's positive attitude toward the blind than the teacher who was never exposed (Kuhn, 1971).

F. Contact with the visually impaired had no significant effect on attitudes but special training did (Sirisena, 1975).

While the evidence is sometimes contradictory, a study of the history of the blind in relation to the seeing world shows that, as superstitions and fears on the part of the seeing world decreases, blind peoples' usefulness to self and others rises proportionately (Schauer, 1951). Visibility, then, may be the key to acceptance (Byrnes, 1976).

As Lombana stated in 1980, "In schools, negative attitudes are frequently behaviorally projected through avoidance, overt anxiety, pity or overprotectiveness" (pp. 176-181).

--Loneliness and isolation lead to lowered self image,

--Anxiety leads to embarrassment and self consciousness,

--Pity leads to self pity,

--Overprotectiveness leads to dependence, apathy, a lack of motivation.

In the long run, many handicapped people suffer from poor academic achievement, undeveloped social skills and unemployment, not because of their handicapping condition, but rather as a result of the cumulative effect of negative attitudes of the non-handicapped within the immediate environment" (Lombana, 1980, pp. 176-181).

Fortunately, it is widely believed that attitudes can be changed and improved. For ways to change attitudes, see Appendix: Form 14.

One very stimulating, if not also effective, way to effect attitude changes is through simulated activities for students and/or adults in the school. In simulations, the "players" assume roles which represent the real world, then make decisions in response to their assessment of the setting in which they find themselves. They then experience simulated consequences which relate to their decisions and to their performance in general. They can monitor the results of their actions and are forced into reflecting upon the relationship between their own decisions and the resulting consequences (Taylor & Walford, 1972).

There are three major attributes of a simulation:

1. They are activity oriented--an informal approach to understanding the situation.
2. They are usually problem based, frequently involving the use of social skills directly relevant to the real world.
3. They are fundamentally dynamic--dealing with situations that change and which demand flexibility of thought and response (Taylor & Walford, 1972).

Additional information on devising a simulation is available in Appendix: Form 15. A sample simulation is included in Appendix: Form 16. Developing an entire handicap awareness program is also possible. Typically, such programs can be developed for all handicapping conditions but for schools with visually impaired students, it may be most productive to concentrate on the loss of vision. Two such programs have been developed (Hineck, 1981; Scheffers, 1977), utilizing simulated activities, as well as other components:

1. learning grade 1 Braille (alphabet)
2. completing an obstacle course while blindfolded
3. visiting "Senses Centers" while blindfolded, exploring objects through the senses
4. playing beeper ball while blindfolded
5. eating while blindfolded (Hineck, 1981)
6. viewing films such as "The Guide Dog Story" (free film from Guide Dogs for the Blind, Inc., San Rafael, California) (Hineck, 1981; Scheffers, 1977), "What Do You Do When You See A Blind Person?" (available from A.F.B.) (Scheffers, 1977)
7. learning sighted guide techniques (Hineck, 1981; Scheffers, 1977)
8. discussing and writing about the above experiences (Hineck, 1981; Scheffers, 1977).

These two programs reported positive results and could easily serve as models for replication. (See Appendix: Form 17). In addition, entire programs for use with children or adults are commercially available, some of which include visual handicaps. Children's literature can also be used effectively to teach about acceptance and understanding of individual differences. An excellent resource is an article by Litton, Banburg and Harris that appeared in Teaching Exceptional Children in the fall of 1980. This article lists kits, programs and books for students and/or adults, including mailing addresses and costs (pp. 39-43).

Much of the above information is useful once a specific school or student has been identified. However, it will sometimes be necessary to locate an appropriate site for the placement of a resource or special class for the visually impaired. The following criteria may be useful in determining the best possible site for program expansion:

1. Administrator attitude is probably the most important factor in the success of the program.
2. The school is centrally located, near major transportation routes.
3. The school has more than one class at each grade level, so that no general education classroom teacher has more than one visually impaired student.
4. The school maintains typical district-wide achievement averages.

5. There is access at this site to support services, such as speech therapists, reading specialists, etc. (O'Brien, 1973).

Once the school has been selected, it is very helpful if agreement can be reached on the following items:

1. The school's principal agrees that the resource room teacher is responsible for attending all vision staff meetings in the interest of improving services to students.
2. Materials belong to the vision program and are subject to transfer as individual student's needs and program obligations change.
3. A committee composed of the principal, assistant principal, and coordinator of the vision program assist in the evaluation of the resource room staff in terms of program goals and services to children.
4. The coordinator of the visually impaired program selects the teacher and aide for the resource room. Both report to the principal and are to be considered full members of the faculty, assuming bus and lunchroom duties, etc. Both also retain identity as part of the vision staff, as well.
5. Only in very rare emergencies should the resource room staff substitute for absent teachers (O'Brien, 1973).

Aditional "tips" for the local school administrator are provided in Appendix: Form 18.

Once preparations are under way for the mainstreaming of the visually impaired student, attitudes have been enhanced, consciousness raised and basic procedures successfully tackled, it is time to get down to the task of teaching the student in the sighted classroom. Unless the general education teacher has been well prepared, the entire process can easily deteriorate at this point. While no general education teacher needs to know everything about teaching low vision students,(s)he must be comfortable enough to welcome the student into the classroom. Teaching suggestions are included in Appendix: Form 19.

While the "how" of teaching is a major concern of general educators, the "what" is the true "meat" of the educational experience. For almost all visually impaired students, the curricular content will be the same as for sighted students. In some instances, adaptations to the presentation of subjects will be needed. Appendix: Form 20 lists specific suggestions by subject for visually impaired students mainstreamed into general education classes.

There may be some additions to the curriculum that should be taught by the visually impaired student's special teacher. Such additions are included in Appendix: Form 21.

Many factors can, and do, affect the success of any mainstreaming experience. The student's self image, adjustment to visual loss, social and academic skills, as well as teachers' flexibility and interest, the classroom environment and a multitude of other variables can spell success or failure. Very little research has been done to evaluate the effects of mainstreamed programs for visually impaired students, probably due to this multitude of factors and the inability to objectively isolate their effect.

In an attempt to determine if the information presented in the appendix is useful to teachers, Appendix: Forms 22 and 23 were developed to gauge the helpfulness of the previous sections. Appendix: Form 22 was designed for use with general education teachers and Appendix: Form 23 tailored to determine if the needs of vision teachers have been met.

What does the future hold for visually impaired students in the mainstream? While no one knows for certain, some projections can be made. If students continue to be mainstreamed into general education classes and buildings, changes will come. Perhaps there will be a greater need for additional teachers of the visually impaired or perhaps general education teachers will be better trained to work with low vision pupils. Perhaps the role of the residential school will change due to a decrease in numbers of pupils as more and more cooperative programs with local school districts are developed. Materials, summer school programs, student assessments and teacher/consultants provided by the residential schools to districts who mainstream their visually impaired pupils is frequently mentioned as a future trend, although some residential schools have already implemented this model (Bischoff, 1978; Scholl, 1968; Taylor, 1973).

Putting the expertise available at the residential school to use to ensure successful local school mainstreaming has been tried by the Michigan School for the Blind (Bischoff, 1978) and the Sir Frederick Fraser School in Halifax, Nova Scotia (Thurman, 1978).

Educators are legally committed to the principle of mainstreaming. Ethically, we must see to it that true integration takes place in the mainstream, or we are not fulfilling the true intent of the law, "to concentrate on the development of the person in a holistic sense" (Strutinsky, 1981b, p. 59). As educators, we must examine the lifetime needs of an individual in society and teach each individual the strategies so that (s)he may be just that--a unique person, living and working with every other unique person in, not outside of, the society of the future.

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APPENDIX

The appendix includes information for use by and with teachers of the visually impaired, general education teachers, building administrators and students. The list below suggests role groups that might use each form:

ROLE GROUPS	RECOMMENDED USE	OPTIONAL USE
TEACHERS:		
--Visually Impaired	1,2,3,4,5,8, 9,11,12,13, 14,15,16,17, 21,23	10,18,19 20,22
--General Education	10,11,12,19, 20,22	15,16,17
--Building Administrators	12,18	
STUDENTS:		
--Visually Impaired	6	
--General Education	12	16,17
PARENTS	7	12

Forms 22 for general education teachers and 23 for teachers of the visually impaired were developed to evaluate the helpfulness of the other forms. Form 6 may be used as both a pre and post test for visually impaired students, comparing answers through a discussion, as can Form 7 for parents of visually impaired students. Form 12 may also be used to show changes or growth.

RESEARCH FACTORS INFLUENCING MAINSTREAMING

Researchers have identified the following variables that may affect the success or lack of success for mainstreaming visually impaired students. While the data have usually not been conclusive, these factors may need to be addressed in working with low vision students:

1. Social competence--not usually considered with academic preparation (Winkley, 1972).
2. Social acceptance--not usually considered with academic preparation (Winkley, 1972).
3. Social adjustment--
    a. visually impaired possibly more hostile, less masculine (Crandell & Streeter, 1977).
    b. exposure to visually impaired improves attitudes, increases social gains (Esposito & Peach, 1983).
    c. residential students may feel different from sighted people (Coker, 1979).
    d. no overall differences in social interactions--visually impaired and sighted (Krieger, K., Note 7).
4. Self-concept--itinerant teachers may not be supporting growth of positive self concepts (Head, 1979).
5. Introverted personalities--
    a. parents of visually impaired children feel children are more introverted (Weber, Note 10).
    b. residential students may be more introverted than sighted or partially sighted attending public schools (Zumloh, Note 11).
6. Reasoning skills--blind students may function at concrete operational level (delayed functioning) (Stephens & Simpkins, 1974).
7. Organizational skills--
    a. visually impaired students may be less efficient organizers (Krug and Krug, Note 8).
    b. visually impaired students may hesitate more before beginning projects (Weber, Note 10).

8. Volunteering--residential visually impaired students may volunteer more (Coker, 1979).

9. Avoidance of situations--visually impaired students may tend to avoid frustrating situations (Ehli, Note 4).

10. Friends--
    a. more exposure to sighted students, the more sighted friends (McGuinness, 1969).
    b. visually impaired may be less cautious about choosing friends (Weber, Note 10).

11. Carriage--visually impaired students viewed as having deficient carriage (Krug, et.al., Note 8).

12. Mobility--day school students viewed as more mobile (Blackhurst and Marks, 1977).

13. Unacceptable physical/social behaviors--must be modified for mainstreaming (Jones, Lavine & Shell, 1972).

Form 2

POSSIBLE DIFFICULTIES IN MAINSTREAMING

Difficulties that face visually impaired students who are being considered for mainstreaming can include:

1. PEER RELATIONSHIPS--children can be very clique-ish, competitive and sometimes, even cruel in their relationships, particularly with students new to their classes (Strutinsky, 1981b).
2. FRIENDS VS. HELPERS--a "buddy" by force is not necessarily a buddy by choice. Roles must be clearly defined (Strutinsky, 1981b).
3. OVERPROTECTION--parents and general education teachers can stifle a child, simply by allowing their concerns to overshadow their goals for visually impaired students (Strutinsky, 1981b).
4. REALISTIC EXPECTATIONS, FEEDBACK--many general education teachers are so amazed that the visually impaired student can do anything, that they inappropriately praise everything the student does. The student, however, needs constructive criticism and praise based upon realistic views of what his/her capabilities are (Strutinsky, 1981b).
5. GROOMING/APPEARANCE--many low vision students do not dress (or are not dressed) appropriately. While a designer wardrobe is not critical to mainstreaming success, a clean, tidy appearance in age appropriate clothing is vital to the

student's sense of worth and well-being (Thurrell, 1966).

6. BLINDISMS--unusual personal mannerisms may isolate a mainstreamed student, even one with excellent academic skills. It is critical that the student realize that his/her acceptance may hinge upon what (s)he looks like to others (Thurrell, 1966).
7. LACK OF MATERIALS--having materials that can be used to do the same work classmates are doing is vital to mainstreaming success. Adapted materials or special equipment should be provided to maximize each visually impaired student's academic capabilities (Smith, 1973).
8. EXCLUSION FROM CLASSES--athletics and manual training are two areas frequently closed to the low vision student. Adaptations can, and should, be made to allow participation, even if adapted, in each subject area in which the student needs to learn (Smith, 1973).
9. SELF IMAGE--a lack of confidence and low self image can create retarded social development of visually impaired students. Sessions with a school guidance counselor can help the student deal with these difficulties (Smith, 1973).

PREDICTORS OF SUCCESSFUL MAINSTREAMING

The following may be predictors of the success or lack of success of integration into a sighted classroom:

1. INTELLIGENCE

   Measured intelligence did not appear to significantly influence integration.

2. READING

   A. There may be no significant correlation between reading level and the success of integration. Non-verbal, computational skills (such as in arithmetic) may be a better predictor of the feasibility of integration than reading skills are.

   B. Reading medium does not appear to significantly influence integration.

3. VISION LOSS

   A. The degree of integration may be influenced by vision loss.

   B. Females appear to achieve a greater degree of integration, which may be due to a positive adjustment to their visual disability.

   C. Thomas contradicts previous evidence that specific eye conditions influence participation in integrated school activities (Thomas, 1979).

Form 4

CRITICAL ELEMENTS OF MAINSTREAMING SUCCESS

Elements critical to the success of mainstreaming have been:

1. TEAM APPROACH

   Parents and professionals (administrators, general and special education teachers, social workers, counselors, etc.) work together and communicate with each other to maximize success (Martin & Hoben, 1977).

2. WELL PREPARED STAFF

   Well-trained, effective personnel with positive attitudes contribute greatly to the success of any mainstreaming effort. A professional, trained in working with the visually impaired, who is a part of and/or who supports the other staff members is also vital to success (Kenmore, Note 6; Martin & Hoben, 1977).

3. PROGRAM STRUCTURE

   Accessible physical arrangements and a well-developed program that will set the stage for learning by imitation will enhance social integration (Allen, 1981). Specialized materials, necessary for academic integration, must also be available (Kenmore, 1972).

4. INDEPENDENCE

   The students need to develop physical (traveling within the building), as well as psychological independence, in order to be fully integrated (Kenmore, 1972).

CONDITIONS OF SOCIALIZATION

Visually impaired students have been, are now and probably will continue to be "present" in general education classrooms without being fully socialized with their sighted peers. In order for real socialization to take place, these conditions must exist:

1. The visually impaired student must have several contacts with the same general education student.
2. The contacts should be close together in time, every week or so.
3. The students should be meeting for a common interest.
4. Ages of the students should be about the same.
5. Understanding "leaders" of both the visually impaired students and the general education groups must be present (Buell, 1953).

Form 6

VISUALLY IMPAIRED STUDENT PREPARATION FORM

*1. What are your concerns about mainstreaming?	yes/no	2. What can you do to ease your concerns?
a. Getting along with other students	______	a. ______________________
b. Getting along with the teacher	______	b. ______________________
c. Making friends	______	c. ______________________
d. Having materials I can see/use	______	d. ______________________
e. Finding my way around the school	______	e. ______________________
f. Completing the work on time	______	f. ______________________
g. Accurately completing the work	______	g. ______________________
h. Other (specify) ______________________ ______________________		h. ______________________ ______________________

*3a. What would you like the teacher to know?

b. What would you not like the teacher to know?

4a. What would you like the other students to know?

b. What would you not like the other students to know?

5. What do you hope to accomplish in your mainstreamed class?

6. What do you think you'll like about your mainstreamed class?

*(Martin & Hoben, 1977)

Form 7

PARENT PREPARATION FORM

*1. What are your concerns about your child being mainstreamed?			2. What can you do to ease your concerns?
	yes	no	
a. Getting along with other students	___	___	a. ______________________
b. Getting along with the teacher	___	___	b. ______________________
c. Making friends	___	___	c. ______________________
d. Having materials (s)he can see/use	___	___	d. ______________________
e. Finding her/his way around the school	___	___	e. ______________________
f. Completing the work on time	___	___	f. ______________________
g. Accurately completing the work	___	___	g. ______________________
h. Other (specify)			h. ______________________
______________________			______________________
______________________			______________________

*3a. What would you like your child's general education teacher to know?

b. What would you not like your child's general education teacher to know?

4a. What would you like the other students to know?

b. What would you not like the other students to know?

5. What do you hope your child will accomplish in the mainstreamed class(es)?

6. What do you think you'll like about the mainstreaming experience?

*(Martin & Hoben, 1977)

Form 8

CLASSROOM VARIABLES FOR THE VISUALLY IMPAIRED

Teacher: ______________________ Grade: ______________________

Subject(s): ____

V.I. Teacher: ______________________ Date(s): ______________________

A. PRESENTATION OF SUBJECT MATTER:

	*% of time	For which subjects?	When?
1.*How often does the teacher:			
a. lecture?			
b. use the blackboard?			
c. use individualized instruction?			
d. use small group instruction?			
e. use large group instruction?			
f. use learning centers?			
g. other (specify)			

	*% of time	For which subjects?	When?
2.*What types of media are used?			
a. regular textbooks?			
b. supplementary materials?			
c. television			
d. films			
e. filmstrips			
f. slides			
g. overhead projector			
h. record player			
i. tapes			
j. others (specify)			

3. a. What is the language level used by the teacher?

b. What is the vocabulary level used by the teacher?

B. INSTRUCTIONAL SUPPORT

*1. What type(s) of support personnel would be possible in the classroom?

Type	Yes/No	How often available?
a. Aide		
b. Volunteer		
c. Peer tutor		
d. V. I. teacher		
e. Other (specify)		

C. MATERIALS:

1. What procedures would be possible for the teacher to get materials to you?

	yes/no	how often	by specific time?
a.mailbox in office			
b.via student			
c.mailbox on desk			
d.other (specify)			

2. What procedures would be possible for you to return materials to the teacher?

	yes/no	how often	by specific time?
a.mailbox in office			
b.via student			
c.mailbox on desk			
d.other (specify)			

3. What storage possibilities exist in the classroom? ________

____

4. REQUEST FOR LARGE TYPE/BRAILLE MATERIALS
(Circle One)

Student's Name ______________________ School ______________ Grade ________ School Year __________

Teacher of the Visually Impaired ______________________ Classroom Teacher ______________________

TEXT	PUBLISHER	COPY-RIGHT DATE	GRADE LEVEL	IS THIS A PRIORITY?	WILL TEACHER ACCEPT AN EARLIER EDITION?	WILL TEACHER ACCEPT ALTERNATIVE BOOK-SAME GRADE?
Basic textbooks, workbooks:						
Supplementary materials:						

D. STUDENT RESPONSE VARIABLES

*1. How often is the student required to:

	% of time	subject(s)	where?
a. take notes from lecture?			
b. copy from the board?			
c. read aloud in class?			
d. do independent work?			
e. participate in class?			
f. other (specify)			

*2. In what ways can a student request assistance in the classroom?

*3a. How are instructions given to students?

*b. How many directions are given at one time?

*E. STUDENT EVALUATION

1. How often and in what ways does the teacher evaluate student progress?

2. How are grades determined?

3. What types of tests are given?

   _____essay
   _____true/false
   _____multiple choice
   _____matching
   _____completion
   _____oral
   _____simple recall
   _____fill in
   _____other

4. Does the teacher assign homework?
   a. What type?
   b. How much?
   c. How often?

5. Does the teacher assign special projects or extra-credit work? Please explain.

*F. CLASSROOM MANAGEMENT

1. Does the teacher have a management system? Briefly describe it.

2. What are the stated rules in the classroom?

3. What are the unstated rules in the classroom?

4. What are the consequences of following the rules? What are the consequences of not following the rules?

5. In what ways and how often does the teacher reinforce the students?

6. Does the teacher follow any special routines? What are they?

*G. SOCIAL INTERACTIONS

1. How often are student interactions... % of time

   a. individualistic? __________

   b. cooperative? __________

   c. competitive? __________

2. What are the student norms in this class concerning...

   a. dress?

   b. appearance?

   c. interests?

   d. acceptance of individual differences?

   e. other unique relevant characteristics. Please list.

3. What are the students' attitudes toward the handicapped?

4. What is the language and vocabulary level of the students?

5. What personality variables does the teacher exhibit that seem to affect the class?

*H. PHYSICAL DESIGN

1. What, if any, architectural barriers are in the classroom?

2. How does the design affect the students'...

   a. academic performance?

   b. social interactions?

*(Salend & Viglianti, 1982)

TALLY OF VARIABLES

Adaptations needed for student to benefit from:

*A. PRESENTATION OF SUBJECT MATTER:

*B. INSTRUCTIONAL SUPPORT:

C. MATERIALS:

*D. STUDENT RESPONSE VARIABLES:

*E. STUDENT EVALUATION:

*F. CLASSROOM MANAGEMENT:

*G. SOCIAL INTERACTIONS:

*H. PHYSICAL DESIGN:

*(Salend & Viglianti, 1982)

TEN COMMANDMENTS FOR SUCCESSFUL MAINSTREAMING

The suggestions below are ideas to aid the teacher of the visually impaired in laying the foundation for successful mainstreaming. Most are taken from two books by Kenneth Hanninen, both titled Teaching the Visually Handicapped, one published in 1975 and the other, a revised edition, published in 1979.

1. Observe in the general education classrooms to analyze the environment. Learn what the expectations are, how the teacher teaches and with what media, how homework and even grades is/are assigned, how the teacher manages the class and what materials (and in what form) will need to be provided. An excellent resource is the "Classroom Variables Analysis Form" developed by Salend and Viglianti (1982). See Appendix: Form 8 for a form tailored to the visually impaired student.
2. Set up a climate of acceptance with the general program teacher and students. Further work on attitudes may be needed (1979).
3. Establish a schedule of times each day for supporting and monitoring the general education teacher(s) (1979). Once a day is appropriate for elementary students (1975, 1979). Share the schedule with the general education

teacher. Bear in mind that the sighted classroom is the most important part of the student's day since it is the primary source of instruction. For high school students, a simple form may be the easiest way but don't forget the importance of personal contacts.

4. Seek out student needs in the general program. Make all educational experiences available, if adapted.
5. Establish a pattern of movement of equipment and materials to or from all teachers (1979). Use the mailbox, the student or any other way to communicate. Involve the student as much as possible. Make certain all materials are available to him/her at the requested time. Help the student develop an organizational system for locating and storing classwork, books, materials and equipment. Aim for independence--you have to prepare the materials, but the better organized the student can maintain them, the easier it will be for her/him in the general program.
6. Respond promptly to implied or explicit requests for help from the student or the other teachers (1975).
7. Encourage (and monitor) accurate, realistic feedback from the general teacher to the student in line with what the other students receive (1975, 1979).

8. Eliminate obstacles for the students' participation in curricular or extracurricular activities, i.e., art activities can be adapted, transportation can be arranged after school hours, etc. (1975, 1979).
9. Orient the student to the building. Include classrooms, lunchroom, custodian's room, office, restrooms, library and any room (s)he may need to travel to or from. Include routes appropriate to the student's schedule. Also orient the student to objects (s)he will need in the library or classroom, such as coat racks, globes, etc.
10. Maintain positive professional and personal relationships with other professionals, other staff members and with students. Don't belittle anyone in front of any of the others.

SUGGESTED PREPARATIONS BY THE RECEIVING TEACHER

The general education teacher may need a few suggestions regarding the incoming student with vision difficulties.

1. Enter this experience with an open mind and a positive attitude. Let this experience add a challenging, exciting new dimension to your teaching routine (Hanninen,1979).
2. Invite the teacher of the visually impaired into your classroom to observe the physical layout as well as the environmental make up of your teaching day. (S)he can best learn how to provide support to you and to the visually impaired student by learning how your classroom operates (Hanninen, 1975).
3. Establish a time convenient to both you and the teacher of the visually impaired, to meet to discuss the student's program and progress. This appointment can be set up on a daily (for elementary students) or other basis. Later, a simple note may take the place of some of these conferences. See Appendix: Form 11 (Hanninen, 1979).
4. Share student's (or your needs) with the teacher of the visually impaired. Even if (s)he has visited your classroom, matters will always

come up which have not yet been addressed (Hanninen, 1979).

5. Work with the teacher of the visually impaired to set up procedures to obtain materials that you need adapted for the student's use. The process could be as simple as placing items in a mailbox or even having the student carry them to and from the visually impaired teacher. If large type textbooks are provided, they can be used with other students when the visually impaired students are not using them. The large type makes it easier for many students to read. (Orlansky, 1977). Designate a shelf, table or other storage area for the student to use for her(his) materials and equipment. Encourage the student to be independent in maintaining and organizing the materials for easy retrieval and use (Hanninen, 1975).

6. Be realistic in your feedback to the student. Expect the same as you would for other students and reward or punish as you do other students. Don't over or under praise the student (Hanninen, 1975, 1979).

7. You may consider assigning or requesting another student to serve as a "buddy" to the visually impaired student entering your class. The "buddy" can assist with lessons on the board by using

carbon paper under her(his) paper, reading brief assignments aloud or even taping assignments for the student (Hanninen, 1979).

8. Most of all, continue to maintain your personal and professional relationships within the building since support and ideas often come from other staff members (Hanninen, 1979).

Form 11

STUDENT PROGRESS REPORT

Dear ____________________:

Please take a few minutes to complete this form so that I can be better informed of this student's progress. Please return this to me at ____________________.

Student's name ____________________

Classes: Grade to date:

	YES	NO
Has student turned in all required assignments?	___	___
What does (s)he lack? ____________________		
Has student completed all class assignments?	___	___
What does (s)he lack? ____________________		
Has student completed all homework assignments?	___	___
What does (s)he lack? ____________________		
Does (s)he come prepared to class?	___	___
Has (s)he contributed to class discussions?	___	___
Does (s)he stay on task?	___	___
Does (s)he pay attention in class?	___	___
Does (s)he come to class on time?	___	___
Is (s)he making progress in class?	___	___

Additional materials/books are needed:

	Text or Source:	Page Numbers	Needed by
1.			
2.			
3.			
4.			

Student seems to do well with: ____________________

Student seems to have difficulty with: ____________________

What activities could I do to supplement your program? ____________________

What could I work on with the student to help her/him succeed in your class? ____________________

If you need to discuss this student with me, when you be the most convenient day/time for you? ____________________

Form 12

TRUE OR FALSE?

Check true or false next to each of the questions below:

		TRUE	FALSE
1.	People with serious vision loss are usually maladjusted (Monbeck, 1973).	____	____
2.	"Facial vision", or the power to perceive objects without seeing them is a special gift that blind people have (Bauman, 1967).	____	____
3.	It is no longer believed that the cause of blindness is because of parental sin (Monbeck, 1973).	____	____
4.	Blind people have the innate capability to be great musicians, or religious, docile or sympathetic personalities (Monbeck, 1973).	____	____
5.	Most people labelled as blind do, in fact, have some vision (Bauman, 1967).	____	____
6.	Legally blind means seeing only the top E on the eye chart, a visual acuity of about 20/200 with the glasses on.	____	____
7.	The majority of visually impaired people prefer to be with their own kind, in childhood and in adulthood.	____	____
8.	Blind people are human beings who need love, just as all people do (Biklen, 1977).	____	____
9.	Visually impaired children do not have much to look forward to in life (Biklen, 1977).	____	____
10.	The majority of visually impaired people have additional handicap(s), as well (Biklen, 1977).	____	____
11.	Blind people who are also crazy may rock back and forth or wiggle their fingers in front of their eyes (Model Vision Project, Note 9).	____	____
12.	You do not need to talk louder to a person with a vision problem, unless they also have hearing difficulties.	____	____

RESEARCH ON ATTITUDES

Research of varying designs and definitiveness has been done relative to attitudes toward handicapped individuals. A summary follows, although these should be considered as ideas to be explored, not as facts derived from research:

1. PERCEPTIONS:

   A. Classroom teachers did not perceive any significantly different behavior patterns in peer interactions between partially sighted students and their peers (Rockwell, 1971).

   B. It appears that the attitude of teachers toward handicapped students becomes less positive as grade levels increase, although they seem to be generally accepting of special education students if support or other personnel was provided to help meet the students' needs (Larrivee & Cook, 1979).

   C. In a "provocative, not definitive study" there appeared to be a "greater tendency to believe that one's performance was impaired when interacting with a blind child than a sighted one, although objective evidence is to the contrary" (Jones, R., 1970, p. 324).

   D. "Liberal" students (in graduate education and theology programs) expressed more favorable attitudes toward blindness than did "conservative" students (Kang, 1976).

   E. Female graduate education or theology students expressed more negative attitudes toward the blind than did male students (Kang & Masoodi, 1977).

2. TEACHER NEEDS:

   A. While junior high school teachers were interested in acquiring specific skills, high school teachers were more interested in exploring the affective dimension of dealing with special education students (Larrivee & Cook, 1979).

B. General education teachers wanted information about the specific handicapping condition of the blind student. They also wanted to know how to use (and to be provided with) special materials to meet the needs of the blind students (Keilbaugh, 1977).

C. A survey of general education teachers indicated that they felt more prepared to meet special needs due to academic preparation instead of inservice programming. It was also felt that if inservice were to be provided, that it would be more effective if it were designed along the lines of traditional coursework (Ringlaben & Price, 1981).

3. CONTACT WITH BLIND:

A. Initial contact with the blind person was seen as crucial to attitude formation. Persons who have previously come into contact with blind persons tend not to display shifts in attitude as a function of the contact unless the contact was unusual (Cole, 1971).

B. General education teachers who had had previous contact with (or some exposure to) special education students had slightly more positive attitudes toward the handicapped in general (Keilbaugh, 1977).

C. No conclusive evidence exists that increased social exposure to blind children produces a positive increase in judgments concerning their abilities (Eaglestein, 1976).

D. However, sighted persons' perceptions of the visually handicapped student's abilities appear to improve with prolonged contact (Wilson, McVeigh, McMahon, Bauer & Richardson, 1976).

E. Having a blind child in a regular class at least one hour a day made no difference in the development of the teacher's positive attitude toward the blind than the teacher who was never exposed (Kuhn, 1971).

F. Contact with the visually impaired had no significant effect on attitudes but special training did (Sirisena, 1975).

HOW TO EFFECT CHANGES IN ATTITUDES

The following are suggested ways to change attitudes toward visually impaired students:

1. Give more information: (Monbeck, 1973)
    a. medical aspects of the eye condition (Monbeck, 1973)--include the expected impact on school tasks.
    b. statistics on prevalence of the handicap (Monbeck, 1973)--about 1 in 1,000.
    c. describe training or rehabilitation services (Monbeck, 1973)--tell what you (or others: RFB, APH, etc.) can do to help the teachers or the student.
    d. guidelines for integrated interactions (Monbeck, 1973). (See Appendix: Form 5).
    e. object to unrealistic negative or stereotypic portrayals of the blind (Monbeck, 1973)--"He'll probably grow up to be a beggar".
2. Establish more similarities to the sighted (Monbeck, 1973).
3. Bring in a third party to dissolve projections of the blind (Monbeck, 1973)--a competent blind adult or student.
4. Use proven strategies: (Arbuckle, Note 1)
    a. peer tutoring (Arbuckle, Note 1)
    b. simulated experiences (Arbuckle, Note 1) (See Appendix: Forms 15, 16).

c. remain flexible and low pressure

d. introduce a small population--don't mainstream too many students into the same class (Arbuckle, Note 1)

e. introduce students gradually, don't "dump" them (Arbuckle, Note 1)

f. direct contact, not lecture (Arbuckle, Note 1)

SIMULATION PROCESS

Information for setting up a simulated activity is detailed below:

1. Identify the purpose and priorities you expect from this activity.
2. Determine how the simulation will take place--participants will choose partners, one of whom will be blindfolded.
3. Isolate the variables or component parts--distance and close visual work, mobility.
4. Decide how the experience can be handled--the actual manipulations of materials--one partner will assign and monitor activities the blindfolded partner is to perform.
5. Make the model work--how can you best handle a roomful of "partners"? Give them written directions? Call out verbal directions?
6. Finalize rules--write down your directions.
7. Tune your model--run through with friends (Taylor & Walford, 1972).

The best simulations include the opportunity for exposure to valued peers. They allow the role player to observe the reactions of the nondisabled (Donaldson, 1980).

Form 16

SAMPLE SIMULATION

Poster board glasses can be made to simulate several common eye disorders:

1. tunnel vision-poke a small hole at "pupil" level.
2. central vision loss (peripheral vision)-cut slits at outer edges of each lens.
3. glaucoma--use one thickness of waxed paper for lenses.
4. cataracts--use two thicknesses of waxed paper for lenses.
5. monocular vision--make one lens clear and the other occluded.

Welders' goggles with lenses ground to specific acuity levels also work well, but require considerably more time, effort and money.

It is usually a good idea to pair each person with goggles with a sighted "helper". The following activities are suggested:

DISTANCE VISION TASKS:

1. Copy from a smudged, dirty blackboard (Morris, 1976).
2. Take a seat on the other side of the table (Morris, 1976).
3. Go through an obstacle course with and without a cane and with the "helper" (Israelson, 1980).

NEAR VISION TASKS:

1. Read large type of various sizes (Morris, 1976).
2. Complete a dittoed worksheet (Morris, 1976).
3. Set an alarm, both regular and digital (Morris, 1976).
4. Sew on a button (Morris, 1976).
5. Make a peanut butter sandwich (Morris, 1976).

6. Measure to a spot on a board, then screw in a screw (Morris, 1976).

7. Cut with scissors along a lone on a paper.

8. Write a dictated word or phrase (not name!).

OTHER TASKS:

1. Complete daily tasks, at school or at home (Israelson, 1980).

2. Eat lunch (Israelson, 1980).

3. Go out at recess with blindfold on (Israelson, 1980).

4. Identify objects by name and color (Israelson, 1980), using other senses:

   --orange (smell) --candy (taste)
   --spoon (touch) --paper being torn (sound)
   (Popp, 1983)

5. Locate an object dropped onto the floor.

6. Tell what color shoes the helper is wearing.

Form 17

SAMPLE AWARENESS PROGRAM

While handicap awareness programs are available commercially (for a list of programs, kits and books, see Litton, Banbury and Harris, "Materials for Educating Nonhandicapped Students about Their Handicapped Peers", Teaching Exceptional Children, Fall 1980, Vol. 13, 39-43), it is relatively simple to develop an awareness program that targets visual impairments. The components can include:

1. simulations (See Appendix: Form 15)
2. learning grade 1 Braille (alphabet)(Hineck, 1981) and then "decoding" materials (Scheffers, 1977).
3. visiting "Sensory Centers", exploring objects with the senses while blindfolded (Hineck, 1981).
4. playing beeper ball while blindfolded (Hineck, 1981).
5. viewing films such as: "The Guide Dog Story" (Hineck, 1981, Scheffers, 1977), (free film from Guide Dogs for the Blind, Inc., San Rafael, California); "What Do You Do When You See A Blind Person?"(available from A.F.B.) (Scheffers, 1977).
7. Learning about the eye, eye diseases and the effects of visual impairments (Hineck, 1981).
8. completing pre- and post-questionnaires regarding blindness (Hineck, 1981).
9. viewing demonstrations of cane travel, with or without sensory aids (Scheffers, 1977).
10. identifying sounds on a recording (Scheffers, 1977).
11. writing about the above experiences (Scheffers, 1977).
12. discussing the above experiences (Scheffers, 1977).

The above activities can be used with children or adults, teachers, parents or students. The teacher of the visually impaired can present the activities to a general education class, including the teacher (Dewar, 1982) for benefits in several dimensions--teaching students and adults about blindness, giving the other teacher some relief, and hopefully, changing stereotypes of blindness.

TIPS FOR BUILDING ADMINISTRATORS

The following tips will maximize the success of mainstreaming visually impaired students within your building:

1. Assign the V. I. teacher a typical classroom in which to work--not an inferior room that you wouldn't assign to a regular program teacher (Biklen, 1977).
2. Treat the V. I. teacher as you would any member of your staff; the sames goes for the students (s)he serves (Biklen, 1977).
3. Try to avoid special routines for special education classes/teachers/students that are different from those for general education classes/teachers/students (Biklen, 1977).
4. Involve the entire staff in planning for visually impaired students (Biklen, 1977).
5. Do not label classes or rooms by disabilities or the term "Special Education", but rather 3rd grade classes by 3A, 3B, 3C, etc. (Biklen, 1977).
6. Expect great things from all the students in the building. Behavior and grading standards should be consistent, as well (Biklen, 1977).
7. Fund raise for all students; don't target the special education students (Biklen, 1977).
8. Establish volunteer programs to help all students,not just those who are visually impaired (Biklen, 1977).
9. Arrange schedule to maximize the opportunities for interactions between general and special education students. Schedule visually impaired students with the best and worst teachers in the building, just as you would any other student (Biklen, 1977).
10. Students being mainstreamed from residential facilities should be observed by their receiving teachers in their familiar surroundings (Hanninen, 1975).
11. Teachers sending and receiving residential school students should exchange visits prior to the student beginning (Hanninen, 1975).
12. Ongoing communication (at least monthly) should be encouraged between teachers at both sites (Hanninen, 1975).

Form 19

SUGGESTIONS FOR THE CLASSROOM TEACHER

The assignment of a visually impaired student to your classroom does not mean that you will need to change the objectives for your students. It does mean that you may need to change your methods, however (Masoodi & Ban, 1980).

Sensitivity to the needs of students with vision difficulties can create an awareness of other, less obvious needs. The slower pace, varied teaching methods, use of all sensory inputs and detailed explanations can benefit all of the students in your classroom (Hodgson, 1979).

As you work with the student, questions may come to mind. It is hoped that some of the answers will be found within. However, the simplest option may be for you to ask the teacher of the visually impaired who also works with the student.

ARRANGING THE CLASSROOM:

1. Show the student around the room, pointing out specific features such as windows, doors and where they lead, her/his desk, etc.(Orlansky, 1977).
2. Try to keep the classroom area free of dangerous obstacles, such as books on the floor (Orlansky, 1977).
3. Open doors all the way or close them (Orlansky, 1977).
4. Allow the student to tactually explore the classroom (Hanninen,1975) althoug (s)he will not usually be interested in tactually exploring other students' faces (Orlansky, 1977).

5. Maintain clear traffic patterns in your classroom (Alonso, Moor & Raynor, 1978).
6. Inform the student when changes in the arrangements of the room are made (Alonso, Moor & Raynor, 1978).
7. The student may need to be positioned near an electrical outlet so that (s)he can use special equipment--closed circuit television, light, tape recorder, etc.(Ohio Department of Education, 1981).
8. Storage space will be needed, probably close to the student's desk (Ohio Department of Education, 1981).

ATTITUDES

1. Treat the visually impaired student as you would treat any other student in your class (Orlansky, 1977).
2. Allow the student some free unstructured time to use as (s)he chooses, as you do for the other students (Orlansky, 1977).
3. Plan activities with the students, not for them (Orlansky, 1977).
4. Expect the low vision pupil to meet reasonable performance and behavior standards as you do for her/his classmates (Orlansky, 1977).
5. Don't lavishly praise the student's accomplishments; (s)he is neither subnormal nor gifted,

just like the other students in your class (Orlansky, 1977).

6. Don't feel that all her/his needs or difficulties are due to her/his visual loss (Orlansky, 1977).
7. Plan and assign activities so that the low vision student is not just "sitting" (Hanninen, 1975).
8. The student with poor vision may not be "wearing" a reliable "face", especially if (s)he has been impaired since birth.(Orlansky, 1977).
9. Maintain an attitude of matter-of-factness (Hall, 1961).
10. Avoid a sentimental attitude; encourage other teachers and students to avoid this attitude, as well (Hall, 1961).
11. Normal relationships should be maintained at all times: teacher-child, child-group, etc.(Hall, 1961).
12. The visually impaired student should be considered a classmate, not a class project (Hall, 1961).
13. Avoid overprotecting the student (Hall, 1961).
14. Help, when given, should be as unobtrusive as possible (Hall, 1961).
15. Remain flexible (Metsker, 1977).
16. Be positive (Metsker, 1977).
17. Develop classroom structure and adhere to it (Metsker, 1977).
18. Try to be consistent (Hineck, 1981).

19. Touch the child. Express yourself physically. (Alonso, Moor & Raynor, 1978).

AUDIO-VISUAL AIDS, MAPS

1. Borrow two copies of the same filmstrip so the low vision student can use a viewer to watch one film strip as the class watches the other.
2. Read aloud all words printed on overhead projections or filmstrips.
3. Large print, Braille and tactual maps and globes are commercially available or may be made.
4. Allow the student to handle the materials before during or after a demonstration.
5. If the student is using a taped lesson, emphasize the purpose of the lesson, introducing specific questions or instructions before the tape begins.
6. Emphasize scene changes, additions of characters, or shifts in plot if the narrative accompanying a film is poor.
7. Use real objects or realistic models when developing concepts. Be aware of size, texture and shape.
(Ohio Department of Education, 1981).

BEHAVIOR

1. The same standards of behavior must hold for all students (Hall, 1961).

COMMUNICATION

1. Communicate with and support the student's parents (Metsker, 1977).
2. Share what has worked with other teachers (Hineck, 1981).

COMPLETING HOMEWORK AND ASSIGNMENTS

1. Permit the student to make assignment modifications when necessary. (S)He may choose to complete assignments in Braille, large type, longhand and/or on tape.
2. Lessons may be taped.
3. The student's writing may need to be larger than average and in manuscript.
4. Drill work may need to be shortened in length so that students who need extra time due to vision difficulties can complete the assignment. Choose samples representative of the skills being drilled.
5. Allow additional time for assignments to be completed. It typically takes large type users 1½ times as long to complete an assignment as a sighted student; and Braille users may take 2½ times as long.

(Ohio Department of Education, 1981).

FIELD TRIPS

1. Careful preparations of all students for a field trip increases their ease and enjoyment (Krebs, 1961).

2. Determine if the student will experience difficulties and/or discomfort in adjusting to different lighting conditions encountered on the field trip:
--Some students do well in daylight but cannot see at dusk or after dark.
--Some students have difficulty adjusting to extreme changes in lighting conditions (Ohio Department of Education, 1981).
3. Assign a "buddy" to act as a sighted guide if the student will need assistance (Ohio Department of Education, 1981).
4. Advise the field trip site that a low vision student will be in the group so the staff will:
--Verbalize demonstrations.
--Allow students to touch exhibits.
--Allow the student to stand close to exhibits and/or demonstrations (Ohio Department of Education, 1981).

GRADING

1. Work should be rated on its quality, not on the student's blindness (Hall, 1961).
2. Assign work within the ability and developmental level of each student (Metsker, 1977).
3. Use skills which have been mastered but which lead to the next level of mastery (Metsker, 1977).

4. Base standards of performance on the student's past performance, not on other students (Metsker, 1977).
5. Give recognition, but only when earned (Metsker, 1977).
6. Because of the longer finishing times involved, you may need to assign the low vision student fewer problems. Choose those that show skills representative of what you have targeted as the lesson's goals (Davis, 1981).
7. Precision teaching, a specific process for identifying, assessing (monitoring) and reinforcing subskills, can be helpful as a data collection system (Mangold, 1978a).

LIGHTING

1. Avoid glare! Pull the shades down if show or sunlight are causing glare! Shades should be lifted as soon as the glare is gone.
2. Make sure the light falls on student's working area without shadows.
3. For right-handed students, light should come from above and over the right shoulder. Light should come over the left shoulder for left-handed students.
4. Desks and chairs should be arranged so that low vision students neither face nor back up to the windows.

5. Stand away from the windows when talking.
6. Use natural light at the top and bottom of windows when possible and when appropriate to the student's visual needs.
7. If natural light helps the student see, roll shades to the top of the windows on gray days.
8. Artificial light may be needed to supplement the natural light on dark days--especially for desks furthest from the windows.
9. Desk top lamps and lighted magnifiers may aid some students.
10. If students are wearing tinted glasses, they may be very light sensitive so a lot of light will create problems for them.

(Ohio Department of Education, 1981).

LISTENING

1. Encourage the student to listen carefully.
2. See if the student can recall details correctly.
3. Have the student identify auditory environmental cues.
4. To develop listening skills, allow the student to participate in:
   --role playing
   --art, music and drama activities
   --small group projects

- --learning centers
- --learning to use the library
- --learning to use the phone
- --story telling and sequencing stories

(Ohio Department of Education, 1981)

MOBILITY

1. Students, even with severe vision losses, can usually travel independently in familiar places.
2. Encourage the use of whatever vision is available to aid the student as (s)he travels.
3. Learn and use the sighted guide technique; *never* push or pull the student.
4. Encourage the student's use of hearing and touch to facilitate travelling.
5. Practice fire drills.

(Orlansky, 1977).

NOTE TAKING

1. Provide an advance list of assignments or even lists of assignments or lesson outlines (Commonwealth of Massachusetts, 1962).
2. Another student can use carbon paper to "copy" his notes for a low vision student (Commonwealth of Massachusetts, 1962).
3. Lectures can be tape recorded so that notes can be made later (Ohio Department of Education, 1981).

ORGANIZATIONAL SKILLS

1. Encourage the visually impaired student to organize and maintain her/his own possessions, just as the other students do in your class (Hanninen, 1979).
2. Tell the student where (s)he may store materials and equipment (Hanninen, 1979).
3. Encourage the student to develop a logical, easily remembered manner to arrange her/his books and materials (Ohio Department of Education, 1981).
4. Return materials to the same place after use; encourage the student to do the same (Ohio Department of Education, 1981).
5. Dated papers may be organized in a looseleaf notebook according to subject areas (Ohio Department of Education, 1981).

PARTICIPATION

1. Encourage participation in oral reading and group discussions (Hanninen, 1979).
2. Encourage all students to raise their hands before being called on. If you are unable to immediately call on the visually impaired student, acknowledge that her/his hand is up, "Tom, I'll call on you in just a minute." (Davis, 1981).

PREPARING HANDOUTS; SELECTING MATERIALS

1. Work with the teacher of the visually impaired to provide whatever handouts need to be adapted (Ohio Department of Education, 1981).
2. Avoid purple dittos (Ohio Department of Education, 1981).
3. Place a yellow acetate sheet over purple dittos to darken the print (Ohio Department of Education, 1981).
4. A black felt tip pen can be used to make adaptations (Ohio Department of Education, 1981).
5. Select materials with clear type and pictures (Ohio Department of Education, 1981).
6. Use good quality paper with a non-glossy finish (Ohio Department of Education, 1981).
7. Choose materials with adequate margins and space between lines, words and letters (Ohio Department of Education, 1981).
8. Select materials with maximum constrast between the background and the printing. Black letters on white non-glare paper is preferable.
9. Only one side of the paper should be used (Harley & Lawrence, 1977).
10. Handwritten copy should be avoided (Harley & Lawrence, 1977).

SEATING

1. Allow the student to sit where (s)he can see the best (Scholl, 1968).

2. Allow the student the freedom to move within the classroom, to maximize the effective use of her/his vision (Commonwealth of Massachusetts, 1962).
3. An adjustable top desk or desk-top easel or reading stand will bring materials close enough to be read comfortably and to avoid glare (Ohio Department of Education, 1981).
4. Consider lighting needs before assigning a seat. Have the student sit in different parts of the room; identify the best locations for doing board work and seat work, based upon the time of day and amount of light coming in the windows (Ohio Department of Education, 1981).
5. If the student is blind, seat her/him away from distractions and background noises such as sinks, fans, etc. (Ohio Department of Education, 1981).

SOCIAL GROWTH

1. Seek to facilitate and to encourage independence and cooperation among all students (Orlansky, 1977).
2. Gently remind the student to face people to whom he is speaking (Orlansky, 1977).
3. Gentle reminders are also helpful to remind the student that it is not appropriate to flick fingers, rock or eye-poke while in the classroom.

Even better, keep the student so busy with interesting, varied activities that (s)he won't have time to self stimulate (Orlansky, 1977).

4. Help all students develop a good self concept and a sense of security and trust (Metsker, 1977).
5. Allow all students the opportunity for socialization (Hanninen, 1979).
6. The "buddy" system can be useful, as long as the buddy does not give too much help (Hanninen, 1979).

TAKING TESTS

1. Tape the test or have the student's "buddy" read it to her/him (Mainstreaming Minimanual, 1979).
2. Administer the test orally (Mainstreaming Minimanual, 1979).
3. Give the test in sections (Mainstreaming Minimanual, 1979).
4. Provide "window frames" to isolate one line or word of print (Mainstreaming Minimanual, 1979).
5. Allow the student to work at her/his own pace (Mainstreaming Minimanual, 1979).
6. The student can answer questions into a tape recorder, write or type the answers (Commonwealth of Massachusetts, 1962).
7. Have the test adapted by the teacher of the visually impaired, another student or a volunteer or aide (Ohio Department of Education, 1981).

VERBAL

1. Do use words like "see", "look", "blind"; they are a natural part of life.
2. Avoid excessive verbalizations (Hall, 1961).
3. Discuss and describe classroom activities as they occur (Hanninen, 1975, 1979).
4. Address the student by his name first, as "Tom, please read me your answer to #7" (Orlansky, 1977).
5. Speak aloud what you write on the board (Orlansky, 1977).
6. Be clear in what you say and how you say it (Masoodi & Ban, 1980).
7. Use concrete examples in your descriptions or explanations (Masoodi & Ban, 1980).
8. Name the objects and materials you use (Alonso, Moor & Raynor, 1978).
9. Use specific explanations--"in the doorway", rather than "over there" (Alonso, Moor & Raynor, 1978).
10. Signal changes in activities (Alonso, Moor & Raynor, 1978).
11. Speak to the class upon entering or leaving the room (Ohio Department of Education, 1981).

VISUAL FUNCTIONING

1. Learn about the student's eye condition; ask the student, her/his parents or look at the eye report (Commonwealth of Massachusetts, 1962).

2. Encourage the student to use her/his eyes to the maximum extent possible. Eyes benefit from being used (Alonso, Moor & Raynor, 1978).
3. Individuals with identical eye conditions may function very differently (Commonwealth of Massachusetts, 1962).
4. Most students have some vision (Metsker, 1977).
5. Alternate periods of close work with distance work to rest the eyes (National Society for the Prevention of Blindness, 1953).
6. Encourage the student to develop good habits of eye hygiene (National Society for the Prevention of Blindness, 1953).
7. Students need to know how to care for their own glasses (National Society for the Prevention of Blindness, 1953).
8. Visual functioning may vary widely from one day to the next; fatigue and stress play a role in this (Alonso, Moor & Raynor, 1978).
9. Apparent unresponsiveness may be due to several causes:
   --it is easier to hear if the head is bent slightly down.
   --the head is down because the student gets no visual benefit from holding it up.
   --the student cannot react to others' facial expressions or imitate such things as smiles, nods, etc. (Alonso, Moor & Raynor, 1978).

10. Students with retinitis pigmentosa, albinism, or nystagmus may have widely varied visual functioning (Masoodi & Ban, 1980).

11. Allow the student to hold books as close as (s)he chooses in order to see clearly (Ohio Department of Education, 1981).

12. Encourage the student to maintain good posture while attaining a comfortable reading distance. Adjustable book racks/desk stands may be helpful. (Ohio Department of Education, 1981).

WRITING TIPS

1. Encourage the student to use either manuscript or cursive, whichever is easier, clearer and/or the proper size (Ohio Department of Education, 1981).
2. Write in large, broad print on the chalkboard (Ohio Department of Education, 1981).
3. Use thick, white chalk on a clean chalkboard (Ohio Department of Education, 1981).
4. Limit the amount of information written on the chalkboard (Ohio Department of Education, 1981).
5. Have the student use thick, soft pencils and/or black felt-tip pens if they help her/him see more clearly (Ohio Department of Education, 1981).
6. Use non-glossy paper (Ohio Department of Education, 1981).

7. Typing may make it easier and quicker to complete assignments (Ohio Department of Education, 1981).
8. Encourage the use of a good quality typewriter ribbon to insure good contrast (Harley & Lawrence, 1977).

Form 20

ADAPTATIONS BY SUBJECT

The enclosed adaptations are suggested ways to adapt the presentation of subject matter that can maximize the visually impaired student's participation in the general education program.

ART

1. Screening under paper provides textural cues to the low vision student (Freund, 1969).
2. The Braille writer can be used to make designs (Freund, 1969).
3. The seamstress's tracing wheel can be used for outlining areas (Freund, 1969).
4. Crayon or other resistant surfaces enable low vision students to create designs on their own.
5. Prints made by outlining shapes/areas with household glue provide tactual cues (Freund, 1969).
6. Clay modelling, finger painting, murals and tracing are activities requiring few adjustments even for totally blind students (Commonwealth of Massachusetts, 1962).
7. Students who see only large shapes, but no color, may use the media which are tactile as well as visual (Hanninen, 1979).
8. A longer time to tactually explore objects requiring only cursory manipulations by the sighted peers will enable the low vision student to formulate more helpful concepts (Hanninen, 1979).

9. Stitchery, papier-mache', wire sculpture, ceramics, sculpture, architecture and design may all be areas of special interest to the visually impaired pupil (Hanninen, 1979).

BUSINESS CLASSES

1. Typing is essential for low vision students, for personal communication if for no other reason.
2. Use of dictaphones or other devices can be most helpful, also.

(Commonwealth of Massachusetts, 1962)

DRAMA

1. Simple signals, such as a discreet cough, enable a visually impaired student to follow action.
2. Moving on stage can be simplified by having the student move according to movements of other actors.

(Ware, 1968)

EXTRA-CURRICULAR ACTIVITIES

1. Debating, dramatics, glee club, history or language groups and radio or chess clubs are excellent groups for a visually impaired person to be involved in, as are Scouting programs (Commonwealth of Massachusetts, 1962).

GEOGRAPHY

1. Maps with raised outlines and relief globes are available for study.
2. Oral map tests are a way to avoid some problems with maps.

3. Outline maps with few details and with large lettering are very helpful to the student with vision difficulties.

(Commonwealth of Massachusetts, 1962)

HOME ECONOMICS

1. Typical equipment such as pie cutting guides, metal measuring cups and needle threaders can be easily utilized by visually impaired students (Masoodi & Ban, 1980).
2. Notches or Braille labels can be added to the dials of equipment to aid the student with visual difficulties (Masoodi & Ban, 1980).
3. Specialized devices are available from several sources (Masoodi & Ban, 1980).
4. The use of a partner is helpful in cooking to maximize the observation of safety precautions (Commonwealth of Massachusetts, 1962).
5. All students should announce the fact that they are carrying hot liquids or other material (Hanninen, 1979).
6. Low vision students may be taught to place implements not in use on a utility plate to help them locate the items quickly, to use or to put away (Hanninen, 1979).
7. Returning items to the exact drawer or cupboard they were removed from also helps in mentally organizing the kitchen (Hanninen, 1979).

8. Braille or large type labels are available to label items that do not have easily recognized shapes (Hanninen, 1979).

9. Spoonfuls of liquids can be measured more easily if first poured into a dish and then dipped. Placing the forefinger inside a metal measuring cup at the appropriate mark aids in measuring larger amounts of liquids (Hanninen, 1979).

INDUSTRIAL ARTS

1. Specialized equipment, such as Braille rulers, or even better, a "rotomatic" measuring device, is available to help low vision students learn avocational or prevocational skills (Masoodi & Ban, 1980).
2. No special safety equipment is necessary (Masoodi & Ban, 1980).
3. Working with a partner can optimize safe use of equipment (Commonwealth of Massachusetts, 1962).
4. When introducing power tools to the student, it is helpful to keep these principles in mind:
   --APPROACH--Move to the machine with hands low to avoid moving parts.
   --SAFE PATH TO CONTROLS--Learn a safe method of reaching switches so as not to expose arms or fingers to moving parts.
   --POINTS OF OBSERVATION--Determine a spot where it can be learned if the tool is moving and, if so, in what direction.

--DETERMINE PROGRESS OF WORK--Learn how cutting is progressing, either by sound or pressure on handle. (Commonwealth of Massachusetts, 1962).

MATHEMATICS

1. Use concrete objects to enhance explanations.
2. Encourage all students to learn to compute mentally to avoid unnecessary writing and copying.
3. Allow visually impaired students to write down only the most important steps in the problem-solving sequence to avoid fatigue.
4. Encourage students to set up multiplication problems in the center near the right margin of the paper, since work moves to the left. Long division problems should be placed near the left margin because work moves to the right.
5. Special aids are available, such as tracing wheel, Braille rulers, abacuses and geometric models. (Ohio Department of Education, 1981)

MUSIC

1. Frequently, adapted materials may be the only modification needed for visually impaired students. Enlarged type or Brailled music is (or can be made) available (Masoodi & Ban, 1980).

PHYSICAL EDUCATION

1. While the safety and welfare of all students is of vital concern, it is very important that visually impaired students participate in a well-developed program of physical education to build

self confidence as well as physical skills. Bumps and bruises are a part of life; the psychological bruises credited by exclusion can create more problems for a low vision student than a few cuts or scrapes (Wienke, 1966).

2. Students who are extremely nearsighted or prone to detached retinas should not participate in contact sports, tumbling or performing pushups (Forman, 1969).
3. The use of sound or tactile aids can minimize differences created by the student's visual condition, e.g., bell or beeper balls, rope to demarcate running lanes, etc.(Forman, 1969).
4. Using larger, brighter colored balls can ease the difficulty usually created by small balls that travel at high speed (Forman, 1969).
5. Having the student walk and run away from or toward a sound source can not only facilitate games and sports but can also assist in the development of mobility skills (Forman, 1969).
6. Bouncing or rolling, instead of throwing, bell balls enables the student to participate in some ball games (Forman, 1969).
7. Use of large muscles in jumping, lifting, pushing and pulling, such as in tug-of-war, is an excellent way for visually impaired students to increase motor coordination and fitness (Forman, 1969).

8. Organized team sports sometimes present insurmountable difficulties for the visually impaired student. Individual sports or activities such as tumbling, gymnastics or calisthetics can be accomplished with few modifications (Hatlen, 1967).

9. When introducing new material, simple, clear verbal descriptions can be enhanced by allowing the low vision student to touch the arms and legs of the instructor or of a student volunteer (Resnick, 1973).

10. Exercises can often be performed after first holding hands with a partner or in a circle with the entire class (Resnick, 1973).

11. Balancing on one foot can be achieved by holding hands with a partner (Resnick, 1973).

12. Balls can be more readily handled if the thrower calls out the name of the visually impaired student before throwing. The visually impaired student can call out the intended catcher's name, and the catcher can answer back as a simple way to locate by sound (Johnson, 1969).

13. The P.E. teacher may need to think in terms of sound and not rely as heavily on sight (Johnson, 1969).

14. Games of low organization, such as folk dances, singing games, relays, stunts, leapfrog, wheelbarrow races, track and field events and the like

need few adaptations (Johnson, 1969).

15. Field hockey can be played using a whiffle ball with a bell inside (Wienke, 1966).
16. Basketball can be adapted by having someone hold a bell on a stick near the basket, enabling the student to "hear" the location of the basket (Wienke, 1966). Or the student could shoot free throws for both teams (Buell, Note 2).
17. A visually impaired student can serve as a center or guard in a football game. They can snap the ball and then block straight ahead (Buell, Note 2).
18. Soccer, kickball and basketball can all be played using brightly colored balls (Buell, Note 2).
19. Serving for both teams enables the low vision student to participate in volleyball games (Buell, Note 2).
20. A softball on a tee would enable a visually impaired student to bat for both teams (Buell, Note 2).
21. If participation in a ball game is limited to batting, serving or shooting free throws, "down" time can be spent performing physical fitness activities, e.g., running in place, squat thrusts, jumping rope, etc. (Buell, Note 2).
22. Running bases with a sighted student allows the low vision student to play kickball. On defense, the visually impaired student can pitch if the catcher claps her/his hands (Buell, Note 2).

23. The following activities need no adjustments in order for the low vision student to obtain benefits:

- --wrestling
- --tumbling/gymnastics
- --track
- --dancing
- --relays (though mats, etc., can be used for texture contrasts)
- --sack races (whistle blown at finish line)
- --swimming (Buell, Note 2)

SCIENCE

1. Working with a partner can make laboratory experiments possible for low vision students (Commonwealth of Massachusetts, 1962).
2. Tactual equipment/devices may be used to demonstrate concepts discussed in class (Commonwealth of Massachusetts, 1962).
3. Some devices can be modified so that their measurements can be heard rather than seen. Ways to derive auditory measures of motion, temperature and others can be built or are commercially available, including voltmeters (Hanninen, 1979).

Form 21

CURRICULAR AREAS TO BE
TAUGHT BY VISUALLY IMPAIRED TEACHERS

The list below specifies additions to the typical school curriculum that may be needed by visually impaired students. Not all students need all areas of instruction; however, it is to be expected that many pupils will need some instruction in several of these areas:

1. Abacus
2. Braille readiness skills
3. Optacon
4. Auditory aids training

*5. P. E.
    -- gross to fine motor
    --movement
    --rhythm/games

**6. Vocational training

7. Typing

*8. Visual efficiency training

*9. Sensory awareness training

10. Map reading

11. Reference material skills

**12. Concept development--special relations
    --categorization
    --identification

*13. Leisure skills/recreation

**14. Orientation and mobility

*15. Daily living skills

*16. Social skills

**17. Human sexuality

18. Communication skills--handwriting
--speech

*Priority areas for all visually impaired students.

**Vital areas for students who are also severely mentally handicapped.

(Scholl, 1979)

Form 22

EVALUATION OF FORMS: GENERAL EDUCATORS

You have been given information to assist you as you work with visually impaired students. To provide feedback on the helpfulness of this information, please take a few minutes to complete this form:

	PLEASE CHECK ONE BOX FOR EACH LINE	YES	NO
	Which information have you been given?		
1.	Suggested Preparations By The Receiving Teacher	___	___
2.	Student Progress Report	___	___
3.	True or False	___	___
4.	Suggestions for the Classroom Teacher	___	___
5.	Adaptations by Subject	___	___
6.	Other (Specify)________________________	___	___
	________________________________	___	___
	Which did you find useful?		
1.	Suggested Preparations By The Receiving Teacher	___	___
2.	Student Progress Report	___	___
3.	True or False	___	___
4.	Suggestions for the Classroom Teacher	___	___
5.	Adaptations by Subject	___	___
6.	Other (Specify)________________________	___	___
	________________________________	___	___
	Which would you recommend to another teacher about to receive a visually impaired student?		
1.	Suggested Preparations by the Receiving Teacher	___	___
2.	Student Progress Report	___	___
3.	True or False	___	___
4.	Suggestions for the Classroom Teacher	___	___
5.	Adaptations by Subject	___	___
6.	Other (Specify)________________________	___	___
	________________________________	___	___

What other information would you like to have had?

____

____

____

COMMENTS:____

____

____

____

____

EVALUATION OF FORMS:

TEACHERS OF THE VISUALLY IMPAIRED

You have been given information to help you mainstream visually impaired students. To provide feedback on the helpfulness of this information, please take a few minutes to complete this form.

Use the letters of each form as you answer the questions below:

FORMS
A. Research Factors Influencing Mainstreaming
B. Possible Difficulties in Mainstreaming
C. Predictors of Successful Mainstreaming
D. Critical Elements of Mainstreaming Success
E. Conditions of Socialization
F. Visually Impaired Student Preparation Form
G. Classroom Variables for the Visually Impaired
H. Ten Commandments for Successful Mainstreaming
I. Student Progress Report
J. Research on Attitudes
K. How to Effect Changes in Attitudes
L. Simulation Process
M. Sample Simulation
N. Sample Program
O. Curricular Areas to be Taught by Visually Impaired Teachers

QUESTIONS (List the letter of all forms that answer each question)

1. Which information have you been given?____________________
____
2. Which did you find useful?____________________________
3. Which would you recommend to other visually impaired teachers?____________________________________
4. What other information would you like to have had?________
____
____
5. Of the forms that you did NOT use, which do you expect to use in the future?____________________________
6. What changes would you recommend in any of the forms?_____
____
____
7. Comments:____
____
____
____
____